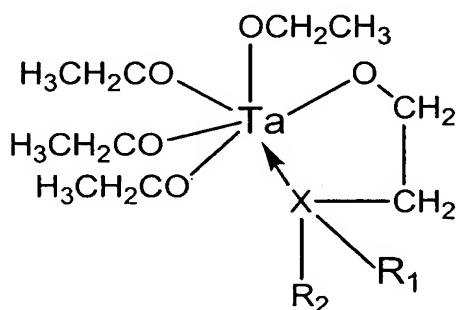


In the Claims:

1. – 10. (Cancelled)

11. (Original) A method of making a semiconductor capacitor comprising:
forming a first electrode on a semiconductor substrate; and
forming a tantalum oxide layer on the first electrode by depositing at least one precursor and ozone gas, the at least one precursor represented by the formula:



wherein X is selected from the group consisting of nitrogen, sulfur, oxygen, and a carbonyl group; and R₁ and R₂ are independently alkyl; and
forming a second electrode on the tantalum oxide layer.

12. (Original) The method according to Claim 11, wherein said step of forming a tantalum oxide layer on the first electrode comprises injecting the at least one precursor, the ozone gas and a purge gas on the first electrode sequentially.

13. (Original) The method according to Claim 11, further comprising the step of forming a tantalum preprocessed layer on the surface of the first electrode by depositing at least one tantalum precursor including oxygen bond by chemical vapor deposition prior to said step of forming a tantalum oxide layer on the first electrode.

14. (Original) The method according to Claim 13, wherein the at least one tantalum precursor is selected from the group consisting of Ta(OC₂H₅)₅ and Ta(OCH₃)₅.

15. (Original) The method according to Claim 11, wherein the first electrode comprises polysilicon, a noble metal, a metal nitride, and combinations thereof.

16. (Original) The method according to Claim 11, wherein the purge gas is argon, nitrogen, or mixtures thereof.

17. (Original) The method according to Claim 11, wherein R_1 and R_2 are each methyl and X is nitrogen.

18. (Original) The method according to Claim 11, wherein R_1 and R_2 are independently C_1 to C_4 alkyl.

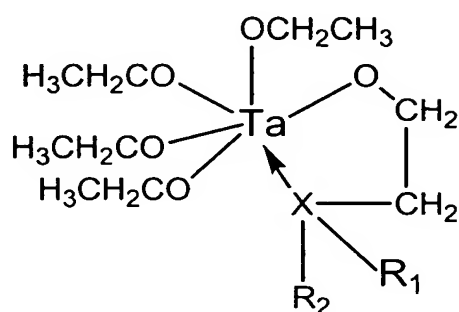
19. (Original) The method according to Claim 15, wherein the noble metal is selected from the group consisting of Ru, Ir, Pt, and combinations thereof.

20. (Original) The method according to Claim 15, wherein the metal nitride is selected from the group consisting of TiN, TaN, WN, and combinations thereof.

21. (Original) The method according to Claim 11, wherein said step of depositing the at least one precursor on the first electrode occurs at a temperature ranging from about 100°C to about 600°C

22. (New) The method according to Claim 1, further comprising uniformly depositing the tantalum oxide layer.

23. (New) A method of making a semiconductor capacitor comprising:
forming a first electrode on a semiconductor substrate;
uniformly forming a tantalum oxide layer on the first electrode by depositing at least one precursor and ozone gas, the at least one precursor represented by the formula:



wherein X is selected from the group consisting of nitrogen, sulfur, oxygen, and a carbonyl group; and R₁ and R₂ are independently alkyl; and forming a second electrode on the uniform tantalum oxide layer.

24. (New) The method according to Claim 23, wherein said step of forming a tantalum oxide layer on the first electrode comprises injecting the at least one precursor, the ozone gas and a purge gas on the first electrode sequentially.

25. (New) The method according to Claim 23, further comprising the step of forming a tantalum preprocessed layer on the surface of the first electrode by depositing at least one tantalum precursor including oxygen bond by chemical vapor deposition prior to said step of forming a tantalum oxide layer on the first electrode.

26. (New) The method according to Claim 25, wherein the at least one tantalum precursor is selected from the group consisting of Ta(OC₂H₅)₅ and Ta(OCH₃)₅.

27. (New) The method according to Claim 23, wherein the first electrode comprises polysilicon, a noble metal, a metal nitride, and combinations thereof.

28. (New) The method according to Claim 23, wherein the purge gas is argon, nitrogen, or mixtures thereof.

29. (New) The method according to Claim 23, wherein R₁ and R₂ are each methyl and X is nitrogen.

In re: Jeong-hee Chung et al.
Serial No.: To be assigned
Filed: Currently herewith
Page 6

30. (New) The method according to Claim 23, wherein R_1 and R_2 are independently C_1 to C_4 alkyl.

31. (New) The method according to Claim 27, wherein the noble metal is selected from the group consisting of Ru, Ir, Pt, and combinations thereof.

32. (New) The method according to Claim 27, wherein the metal nitride is selected from the group consisting of TiN, TaN, WN, and combinations thereof.

33. (New) The method according to Claim 23, wherein said step of depositing the at least one precursor on the first electrode occurs at a temperature ranging from about 100°C to about 600°C